

Sketch the general look of each polynomial. Then state why you know it looks that way.

1. $f(x) = -5x^{25} + 24x^{20} - 20$ _____

2. $f(x) = -70x^{30} + 20x^3 + 50x^2$ _____

Find the zeros of each polynomial and state the multiplicities if there are any.

3. $f(x) = x^3 - 12x^2 + 36x$

4. $f(x) = 2x^3 - 6x^2$

5. $f(x) = 6x^4 - 33x^3 - 18x^2$

6. $f(x) = x^4 - x^3 - 20x^2$

7. $f(x) = x^3 - 4x^2 - 25x + 100$

8. $f(x) = x^5 - 5x^3 + 4x$

Using your graphing calculator, find all of the zeros of the polynomial. Round to the nearest hundredth.

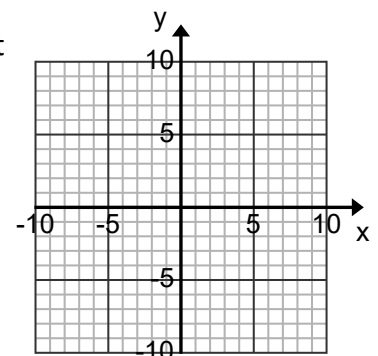
9. $f(x) = -x^4 + 9x^2 - 20$

10. $f(x) = 3x^2 - 12x + 3$

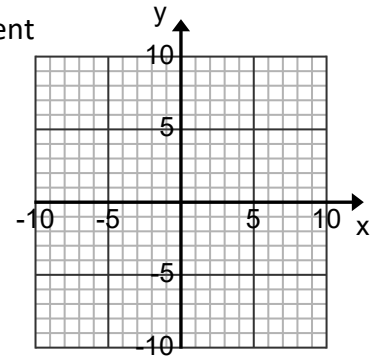
11. $f(x) = 2x^4 - 2x^2 - 40$

Sketch the graph of a polynomial function that satisfies the given conditions. Explain your reasoning.

12. Third degree polynomial with two real zeros and a negative leading coefficient



13. Fourth degree polynomial with three real zeros and a positive leading coefficient



14. Janna has finished weaving a blanket. She made the length of the blanket 1 foot greater than twice its width, because otherwise her toes get cold. If the area covered by the blanket is 28 square feet, how long is the blanket? (Use your word problem rubric)

Given:

Goals:

Conjecture:

Solution:

Verification:

Answer: (Written in complete sentences with precise language: